

In the Claims

Please cancel claims 1-8 without prejudice and substitute therefor the following new claims:

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33. A kit for the synthesis of a polynucleotide, said kit comprising:

- (a) a first DNA polymerase, wherein said first polymerase possesses 3'-5' exonuclease activity, and
- (b) a second DNA polymerase, wherein said second polymerase lacks 3'-5' exonuclease activity.

34. A kit according to Claim 33, wherein said first and second DNA polymerases are thermostable.

35. A method of amplifying a polynucleotide sequence, said method comprising: the steps of mixing a composition, with a synthesis primer, and a synthesis template, said composition comprising

- (a) a first DNA polymerase possessing 3'-5' exonuclease activity, and
- (b) a second DNA polymerase, wherein said polymerase lacks 3'-5' exonuclease activity.

36. A method according to Claim 35 wherein said first and second DNA polymerases are thermostable.

37. A method according to claim 36, wherein said first DNA polymerase is selected from the group consisting of *Pyrococcus furiosus* DNA polymerase, *Thermotoga maritima* DNA polymerase, *Thermococcus litoralis* DNA polymerase, and *Pyrococcus* GB-D DNA polymerase.

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38. A method according to Claim 37, wherein said first DNA polymerase is *Pyrococcus furiosus* DNA polymerase.

39. A method according to Claim 36, wherein the second DNA polymerase is selected from the group consisting of *Thermus aquaticus* DNA polymerase, (exo-) *Thermococcus litoralis* DNA polymerase, (exo-) *Pyrococcus furiosus* DNA polymerase, and (exo-) *Pyrococcus* GB-D DNA polymerase.

40. A method according to Claim 36, wherein said second DNA polymerase is *Thermus aquaticus* DNA polymerase.

41. A method according to Claim 37, wherein the second DNA polymerase is selected from the group consisting of *Thermus aquaticus* DNA polymerase, (exo-) *Thermococcus litoralis* DNA polymerase, (exo-) *Pyrococcus furiosus* DNA polymerase, and (exo-) *Pyrococcus* GB-D DNA polymerase.

42. A method according to Claim 38, wherein said second DNA polymerase is *Thermus aquaticus* DNA polymerase.

43. A kit according to Claim 34, wherein said first DNA polymerase is selected from the group consisting of *Pyrococcus furiosus* DNA polymerase, *Thermotoga maritima* DNA polymerase, *Thermococcus litoralis* DNA polymerase, and *Pyrococcus* GB-D DNA polymerase.

44. A kit according to Claim 43, wherein said first DNA polymerase is *Pyrococcus furiosus* DNA polymerase.

45. A kit according to Claim 34, wherein the second DNA polymerase is selected from the group consisting of *Thermus aquaticus* DNA polymerase, (exo-)

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